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09/813,681	03/21/2001	Heather Laudan Clark	LE9-00-068	3454

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EXAMINER

POON, KING Y

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/813,681

Applicant(s)

CLARK ET AL.

Examiner

King Y. Poon

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-12,15-17,19-27 and 30-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-12,15-17,19-27 and 30-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 5-7, 16, 17, 19-22, 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Debry et al. (US 6,097,498) and Herzog et al (US 4,651,278)(incorporated by reference, column 1, lines 10-15, Debry) in view of Dawson (US 5,553,160).

Regarding claim 1: Debry teaches a method of transmitting print data (fig. 2) from a host (18, fig. 3) to a printing device (22, fig. 3, column 4, lines 44-48) for processing, comprising the steps of: (a) dividing the print data into separate data streams (fig. 2); (a) dividing the data streams into data segments (object container, column 6, lines 63-67, fig. 4); (b) compressing the data segments with a compression algorithm (page description language, column 4, lines 30-35; page description language are compressed print data); (c) creating a print header (WOCC, column 9, line 30-35, column 11, lines 20-32, column 6, lines 35-37; also see column 7, 8 of Herzog) containing instructions for processing each data segment (column 8, lines 43-45, Herzog), wherein the print header is embedded within each data segment ; (d) sending the print header from the host to a printing device (fig. 2, fig. 3); (e) sending the data segments from the host to a printing device (fig. 2, fig. 3); (f) decompressing the data

Art Unit: 2624

segments (46, 48, fig. 3); (g) allocating printer memory space to store the decompressed data segment (column 5, lines 20-25; the output of the interpreter is added to one or more logical page; in doing so, the logical page must be stored (inherent) in a memory space); and (h) processing the decompressed data segments (44, fig. 3) according to the instructions contained in the print header to produce a printed item.

Debry does not teach the header including information describes the size of data in the data segment in compressed or uncompressed form.

Dawson, in the same area of using header to provide information about data transmitted, teaches it is well known in the art that header including information describes the size of data in the data segment in compressed or uncompressed form (column 8, lines 8-20).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Debry to include: header including information describes the size of data in the data segment in compressed or uncompressed form.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Debry by the teaching of Dawson because of the following reasons: (a) since the header is used to provide information about the data being stored, the more information being provided, the less process is to be performed on the receiving side; and (a) it would have help the receiving side of quickly

determining a memory size to stored the received data without processing the data to found out the data size.

Regarding claim 2: Debry teaches wherein the step of compressing the data segments is performed using different compression algorithms for different segments (column 5, lines 10-25, column 4, lines 30-35).

Regarding claim 5: Debry teaches the step of allocating memory partitions according to the size of each uncompressed data segment, such that the size of the partition is similar to the size of the decompressed data segment. (inherent properties of storing data by a processor; if a processor is putting X amount of data into a memory, the processor is putting X amount of data into the memory space).

Regarding claim 6: Debry teaches the step of creating a print header further comprises the step of embedding within the print header information about the relative positions (column 5, lines 23-24, column 6, lines 36-37) of a color (column 7, line 56, Herzog) to be applied to a printing medium during the printing process.

Regarding claim 7: Debry teaches wherein the printing device is an inkjet printer (column 63, line 68, Herzog) with color (column 7, line 56, Herzog) capability.

Regarding claim 16: Debry teaches a system (fig. 2, fig. 3) for processing print data comprising a print data host (18, fig. 3) wherein the print data host performs the steps of: (a) dividing the print data into separate data streams (fig. 2); (a) dividing the data streams into data segments (object container, column 6, lines 63-67, fig. 4); (b) compressing the data segments with a compression algorithm (page description language, column 4, lines 30-35; page description language are compressed print data);

Art Unit: 2624

(c) creating a print header (WOCC, column 9, line 30-35, column 11, lines 20-32, column 6, lines 35-37; also see column 7, 8 of Herzog) containing instructions for processing each data segment (column 8, lines 43-45, Herzog), wherein the print data host embeds a header in each data segment; (d) sending the print header from the host to a printing device (fig. 2, fig. 3); (e) sending the data segments from the host to a printing device (fig. 2, fig. 3); and a printing device (22, fig. 3, column 4, lines 44-48), wherein the printing device performs the steps of (f) decompressing the data segments (46, 48, fig. 3) received from the print data host; (g) allocating printer memory space to store the decompressed data segment (column 5, lines 20-25; the output of the interpreter is added to one or more logical page; in doing so, the logical page must be stored (inherent) in a memory space); and (h) processing the decompressed data segments (44, fig. 3) according to the instructions contained in the print header to produce a printed item.

Debry does not teach the header including information describes the size of data in the data segment in compressed or uncompressed form.

Dawson, in the same area of using header to provide information about data transmitted, teaches it is well known in the art that header including information describes the size of data in the data segment in compressed or uncompressed form (column 8, lines 8-20).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Debry to include: header including

information describes the size of data in the data segment in compressed or uncompressed form.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Debry by the teaching of Dawson because of the following reasons: (a) since the header is used to provide information about the data being stored, the more information being provided, the less process is to be performed on the receiving side; and (a) it would have help the receiving side of quickly determining a memory size to stored the received data without processing the data to found out the data size.

Regarding claim 17: Debry teaches wherein the print data host compresses the data segments using different compression algorithms for different segments (column 5, lines 10-25, column 4, lines 30-35).

Regarding claim 19: Debry teaches wherein the print data host embeds a header in each data segment (column 11, lines 19-32), the header including information that describes the compression scheme (column 11, lines 25-28) employed.

Regarding claim 20: Debry teaches wherein the print data host embeds within the print header information about the relative positions (column 5, lines 23-24, column 6, lines 36-37) of each color (column 7, line 56, Herzog) to be applied to a printing medium during the printing process.

Regarding claim 21: Debry teaches wherein the printing device host (controller fig. 3) allocates memory partitions for storing decompressed data according to the size of each uncompressed data segment, such that the size of the partition is similar to the

Art Unit: 2624

size of the decompressed data segment. (inherent properties of storing data by a processor; if a processor is putting X amount of data into a memory, the processor is putting X amount of data into the memory space).

Regarding claim 22: Debry teaches wherein the printing device is an inkjet printer (column 63, line 68, Herzog) with color (column 7, line 56, Herzog) capability.

Regarding claims 31: Debry teaches a system (fig. 2, fig. 3) for processing print data comprising a print data host (18, fig. 3) wherein the print data host performs the steps of: (a) dividing the print data into separate data streams (fig. 2); (a) dividing the data streams into data segments (object container, column 6, lines 63-67, fig. 4); (b) compressing the data segments with a compression algorithm (page description language, column 4, lines 30-35; page description language are compressed print data); (c) creating a print header (WOCC, column 9, line 30-35, column 11, lines 20-32, column 6, lines 35-37; also see column 7, 8 of Herzog) containing instructions for processing each data segment (column 8, lines 43-45, Herzog) wherein the print header is embedded within each data segment; (d) sending the print header from the host to a printing device (fig. 2, fig. 3); (e) sending the data segments from the host to a printing device (fig. 2, fig. 3); and a printing device (22, fig. 3, column 4, lines 44-48), wherein the printing device performs the steps of (f) decompressing the data segments (46, 48, fig. 3) received from the print data host; and (g) processing the decompressed data segments (44, fig. 3) according to the instructions contained in the print header to produce a printed item.

Debry does not teach the header including information describes the size of data in the data segment in compressed or uncompressed form.

Dawson, in the same area of using header to provide information about data transmitted, teaches it is well known in the art that header including information describes the size of data in the data segment in compressed or uncompressed form (column 8, lines 8-20).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Debry to include: header including information describes the size of data in the data segment in compressed or uncompressed form.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Debry by the teaching of Dawson because of the following reasons: (a) since the header is used to provide information about the data being stored, the more information being provided, the less process is to be performed on the receiving side; and (a) it would have help the receiving side of quickly determining a memory size to stored the received data without processing the data to found out the data size.

3. Claims 10-12, 15, 25-27, 30, 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Debry et al. (US 6,097,498) and Herzog et al (US 4,651,278)(incorporated by reference, column 1, lines 10-15, Debry) in view of Thompson (US 4,463,374).

Regarding claim 10: Debry teaches a method of transmitting print data (fig. 2) from a host (18, fig. 3) to a printing device (22, fig. 3, column 4, lines 44-48) with color capability (column 7, line 56, Herzog) for processing, comprising the steps of: (a) dividing the print data into separate data streams (fig. 2); (b) dividing the data streams into data segments (object container, column 6, lines 63-67, fig. 4); (c) creating a print header (WOCC, column 9, line 30-35, column 11, lines 20-32, column 6, lines 35-37; also see column 7, 8 of Herzog) containing instructions for processing each data segment (column 8, lines 43-45, Herzog); (d) sending the print header from the host to a printing device (fig. 2, fig. 3); (e) sending the data segments from the host to a printing device (fig. 2, fig. 3); (f) allocating printer memory space to store the decompressed data segment (column 5, lines 20-25; the output of the interpreter is added to one or more logical page; in doing so, the logical page must be stored (inherent) in a memory space); and (g) processing the data segments (44, fig. 3) according to the instructions contained in the print header to produce a printed item.

Debry does not teach dividing the print data into streams is performed such that each of the streams contained only print data for one color of ink.

Thompson, in the same area of print data stream, teaches it is well known in the art that print data are divided into streams such that each of the streams contained only print data for one color of ink (column 10, lines 35-47).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Debry to include: dividing the print

Art Unit: 2624

data into streams is performed such that each of the streams contained only print data for one color of ink.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Debry by the teaching of Thompson because of the following reasons: (a) it would have reduced the time the printer processing the print job for most inkjet printers print different colors a row of a time; and (b) it would have simplified the circuit of the ink jet printer to reduce cost and increase printing speed.

Regarding claim 11: Debry teaches the step of creating a print header further comprises the step of embedding within the print header information about the relative positions (column 5, lines 23-24, column 6, lines 36-37) of a color (column 7, line 56, Herzog) to be applied to a printing medium during the printing process.

Regarding claim 12: Debry teaches the step of allocating memory partitions according to the size of each data segment, such that the size of the partition is similar to the size of the decompressed data segment (inherent properties of storing data by a processor; if a processor is putting X amount of data into a memory, the processor is putting X amount of data into the memory space).

Regarding claim 15: Debry teaches wherein the printing device is an inkjet printer (column 63, line 68, Herzog) with color (column 7, line 56, Herzog) capability.

Inherently, all ink jet printing required calculating the beginning and ending points for each color of ink applied to the surface of the printing medium by the printing device

during the printing of a swath/scan line. An inkjet printer cannot print properly without knowing when and where to eject the ink.

Furthermore, Thompson teaches a printer control that calculating the beginning and ending points for each color of ink applied to the surface of the printing medium by the printing device during the printing of a swath/scan line (column 1, lines 60-69, column 2, lines 1-15, column 1, lines 32-35).

Regarding claim 25: Debry teaches a system (fig. 2, fig. 3) for processing print data comprising a print data host (18, fig. 3) wherein the print data host performs the steps of: (a) dividing the print data into separate data streams (fig. 2); (b) dividing the data streams into data segments (object container, column 6, lines 63-67, fig. 4); (c) creating a print header (WOCC, column 9, line 30-35, column 11, lines 20-32, column 6, lines 35-37; also see column 7, 8 of Herzog) containing instructions for processing each data segment (column 8, lines 43-45, Herzog); (d) sending the print header from the host to a printing device (fig. 2, fig. 3); (e) sending the data segments from the host to a printing device (fig. 2, fig. 3); a printing device performing the steps of (f) allocating printer memory space to store the decompressed data segment (column 5, lines 20-25; the output of the interpreter is added to one or more logical page; in doing so, the logical page must be stored (inherent) in a memory space); and (g) processing the data segments (44, fig. 3) according to the instructions contained in the print header to produce a printed item, wherein the printing device is an inkjet printer (column 63, line 68, Herzog) with color (column 7, line 56, Herzog) capability.

Debry does not teach dividing the print data into streams is performed such that each of the streams contained only print data for one color of ink.

Thompson, in the same area of print data stream, teaches it is well known in the art that print data are divided into streams such that each of the streams contained only print data for one color of ink (column 10, lines 35-47).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Debry to include: the host dividing the print data into streams such that each of the streams contained only print data for one color of ink.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Debry by the teaching of Thompson because of the following reasons: (a) it would have reduced the time the printer processing the print job for most inkjet printers print different colors a row of a time; and (b) it would have simplified the circuit of the ink jet printer to reduce cost and increase printing speed.

Regarding claim 26: Debry teaches the print hosts embeds within the print header information about the relative positions (column 5, lines 23-24, column 6, lines 36-37) of a color (column 7, line 56, Herzog) to be applied to a printing medium during the printing process.

Regarding claim 27: Debry teaches the print device allocates memory for storing data according to the size of each data segment, such that the size of the partition is similar to the size of the decompressed data segment. (inherent properties of storing

data by a processor; if a processor is putting X amount of data into a memory, the processor is putting X amount of data into the memory space).

Regarding claim 30: Inherently, all ink jet printing required calculating the beginning and ending points for each color of ink applied to the surface of the printing medium by the printing device during the printing of a swath/scan line. An inkjet printer cannot print properly without knowing when and where to eject the ink.

Furthermore, Thompson teaches a printer control that calculating the beginning and ending points for each color of ink applied to the surface of the printing medium by the printing device during the printing of a swath/scan line (column 1, lines 60-69, column 2, lines 1-15, column 1, lines 32-35).

Regarding claims 32: Debry teaches a system (fig. 2, fig. 3) for processing print data comprising a print data host (18, fig. 3) wherein the print data host performs the steps of: (a) dividing the print data into separate data streams (fig. 2); (a) dividing the data streams into data segments (object container, column 6, lines 63-67, fig. 4); (b) compressing the data segments with a compression algorithm (page description language, column 4, lines 30-35; page description language are compressed print data); (c) creating a print header (WOCC, column 9, line 30-35, column 11, lines 20-32, column 6, lines 35-37; also see column 7, 8 of Herzog) containing instructions for processing each data segment (column 8, lines 43-45, Herzog); (d) sending the print header from the host to a printing device (fig. 2, fig. 3); (e) sending the data segments from the host to a printing device (fig. 2, fig. 3); and a printing device (22, fig. 3, column 4, lines 44-48), wherein the printing device performs the steps of (f) decompressing the

Art Unit: 2624

data segments (46, 48, fig. 3) received from the print data host; and (g) processing the decompressed data segments (44, fig. 3) according to the instructions contained in the print header to produce a printed item, wherein the printing device is an inkjet printer (column 63, line 68, Herzog) with color (column 7, line 56, Herzog) capability.

Debry does not teach dividing the print data into streams is performed such that each of the streams contained only print data for one color of ink.

Thompson, in the same area of print data stream, teaches it is well known in the art that print data are divided into streams such that each of the streams contained only print data for one color of ink (column 10, lines 35-47).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Debry to include: the host dividing the print data into streams such that each of the streams contained only print data for one color of ink.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Debry by the teaching of Thompson because of the following reasons: (a) it would have reduced the time the printer processing the print job for most inkjet printers print different colors a row of a time; and (b) it would have simplified the circuit of the ink jet printer to reduce cost and increase printing speed.

Art Unit: 2624

4. Claims 8, 9, 23, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Debry et al. (US 6,097,498) and Herzog et al (US 4,651,278)(incorporated by reference, column 1, lines 10-15, Debry) in view of Dawson (US 5,553,160) as applied to claims 1, 7, 16, 22 above, and further in view of Thompson (US 4,463,374).

Regarding claims 8, 23: Debry does not teach dividing the print data into streams is performed such that each of the streams contained only print data for one color of ink.

Thompson, in the same area of print data stream, teaches it is well known in the art that print data are divided into streams such that each of the streams contained only print data for one color of ink (column 10, lines 35-47).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Debry to include: dividing the print data into streams is performed such that each of the streams contained only print data for one color of ink.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Debry by the teaching of Thompson because of the following reasons: (a) it would have reduced the time the printer processing the print job for most inkjet printers print different colors a row of a time; and (b) it would have simplified the circuit of the ink jet printer to reduce cost and increase printing speed.

Regarding claims 9, 24: Inherently, all ink jet printing required calculating the beginning and ending points for each color of ink applied to the surface of the printing

Art Unit: 2624

medium by the printing device during the printing of a swath/scan line. An inkjet printer cannot print properly without knowing when and where to eject the ink.

Furthermore, Thompson teaches a printer control that calculating the beginning and ending points for each color of ink applied to the surface of the printing medium by the printing device during the printing of a swath/scan line (column 1, lines 60-69, column 2, lines 1-15, column 1, lines 32-35).

Response to Arguments

5. The examiner has applied new ground of rejections to claims 1, 2, 5-12, 15-17, 19-27, 30-32 based on newly found prior art. The new ground of rejection is not necessitated by applicant's amendment.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chambers, IV (US 5,155,484) and Smutek et al. (US 4,553,206) disclosed it is well known in the art that headers includes information describes the size of data in compressed and uncompressed form.

Art Unit: 2624

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to King Y. Poon whose telephone number is 571-272-7440. The examiner can normally be reached on Mon-Fri 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 12, 2005


KING Y. POON
PRIMARY EXAMINER